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Letters

Different slant on Mars data

I do not agree with Wisdom and Touma that the chaotic tilt of Mars' axis may "ultimately provide another test of the validity of general relativity" ("Tilted: Stable Earth, Chaotic Mars," SN: 2/27/93, p.132).

In the first place, there is as yet no way of knowing whether the calculations correspond to astrophysical fact; therefore, no meaning can be attached to the presence or absence of any particular pathology correlated to the inclusion of relativistic effects.

In the second place, if the results are so sensitive to the presence of relativistic components of Martian astrodynamics, then it is equally valid to suspect that other (possibly more important) effects may result from the consideration of Martian magnetic fields, electrostatic charge, and corresponding interaction with the solar wind and with Jupiter's magnetic field.

Finally, if these results are sensitive to all the

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foregoing, then it stands to reason that they must be dominated by the likely rearrangements of the Martian surface mass distribution in response to the widely varying tilts (melting of water, condensation of atmosphere, internal tectonic motions).

The calculations are intriguing, but we are a long way from obtaining the astrophysical data necessary to interpret them.

Michael J. Dunn
Auburn, Wash.

Creating language-learning input

The astonishing feat of language acquisition is accomplished *without* explicit teaching ("Neural networks for learning verbs," SN: 2/27/93, p.141). It is difficult, therefore, to see a theoretical distinction between the accepted view that children, given sufficient input, arrive at implicit rules, subrules, and exceptions and a neural network's model of generalizing by example.

That "the learning process itself yields the

observed behavior" is *not* "all you need to explain this kind of result." Just as crucial as replicating children's production data in the model's output is using input that approximates children's actual exposure. Young children are not given balanced sets of present- and past-tense verbs, nor do they conveniently hear regular and irregular verbs in relative frequencies that would enable them to make the right generalizations based on statistical probability.

Insight into the mechanism linking genuine input to genuine output would be progress indeed.

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